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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR           | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|--------------------------------|---------------------|------------------|
| 09/891,309   | 06/27/2001  | Peter D'Antonio                | D'ANTONIO-15        | 1645             |
| 7590 06/22/2005  |             |                                |                     |                  |
| H. JAY SPIEGEL<br>P.O. BOX 444<br>Mount Vernon, VA 22121 |             | EXAMINER<br>MCCLLOUD, RENATA D |                     |                  |
|  |             | ART UNIT<br>2837               |                     | PAPER NUMBER     |

DATE MAILED: 06/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>09/891,309 | <b>Applicant(s)</b><br>D'ANTONIO ET AL. |  |
|                              | <b>Examiner</b><br>Renata McCloud    | <b>Art Unit</b><br>2837                 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 April 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12, 14, 15 and 17-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 14, 15, 18, 19 is/are rejected.
- 7) ☒ Claim(s) 9-12 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's arguments, filed 05 April 2005, with respect to the rejection(s) of claim(s) 1-12, 14, 15, 17-19 under 103 have been fully considered. However, upon further consideration of Fries (US5422446), a new ground(s) of rejection is made.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-8, and 14 are rejected under 35 U.S.C. 102b as being anticipated by Fries (US 5422446).

**Claim 1:** Fries teaches a sound diffuser (e.g. Fig. 2; col. 4:53-56 teaches the device used as a sound diffuser) comprising a non-sound absorbing body having a front surface configured to diffuse some of the sound waves (Fig. 2: 2) and a rear surface (Fig. 2: 7); and means (Fig. 2: 8, 9) permitting others of the sound waves to travel from the front surface to the rear surface through the body and sound absorbing means (Fig. 2: 11) on the rear surface (Fig. 2: 7) for absorbing sound waves.

**Claim 2:** the front surface includes a plurality of parallel wells (Fig. 1: 9).

**Claim 3:** the front surface (Fig. 2: 2) includes a 2-D pattern of geometrical shapes including rectangular (Col. 3:42-48).

**Claim 4:** the shapes (Fig. 2:2) are separated by holes or slots (Fig. 2: 5).

**Claim 5:** the permitting means (Fig. 2: 8,9) comprises holes or slots.

**Claim 6:** the front surface comprises a curve shape (Fig. 5: 16).

**Claim 7:** the permitting means comprises slots (Fig. 2: 9).

**Claim 8:** the permitting means comprises holes (Fig. 2: 8).

**Claim 14:** the absorbing means is wool (Col. 3:66-68).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fries (US 5422446) in view of H.F. Olson (US 2502016).

**Claims 15:** Fries teaches the limitations of claim 7. Referring to claim 15, Fries does not teach low frequency sound absorption. H.F. Olson teaches openings providing low frequency absorption (e.g. Col. 1:50-55, 3:14-17).

It would have been obvious to one having ordinary skill in the art at the time the invention was made use the apparatus taught by Fries for low frequency sound

absorption as taught by H.F. Olson. The advantage of this would be an economic, low cost apparatus to absorb undesirable vibrations.

6. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fries and H.F. Olson as applied to claim 1 above, in view of McGrath (U.S. Patent 6,015,026).

**Claim 19:** Fries teaches the limitations of claim 1. Referring to claim 19, Fries does not teach a crossover frequency below which sound is absorbed and above which diffusion takes place. McGrath teaches a crossover frequency below which sound is absorbed and above which diffusion takes place (e.g. Figure 24).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Fries to include the teachings of McGrath. The advantage of this would be a cost efficient, easy to install acoustic diffuser that absorbs a wide range of low frequencies, and is reflective over a range of mid-range frequencies.

#### ***Allowable Subject Matter***

7. Claims 9-12, and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The prior art made of record fails

to teach a diffuser with a first set of large holes and a second set of small holes and with slots having a width of 0.1 to 1 mm.

### ***Response to Arguments***

8. In response to applicant's argument that Fries does not teach a sound diffuser, referring to Col. 4:53-56, Fries teaches the device is used as a sound diffuser.

Also, the recitation "with low frequency sound absorption" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renata McCloud whose telephone number is (571) 272-2069. The examiner can normally be reached on Mon.- Fri. from 8 am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on (571) 272-2800 ext. 4. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2837

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Renata McCloud  
Examiner  
Art Unit 2837

RDM



MARLON T. FLETCHER  
PRIMARY EXAMINER